

Fluvial interactions of the Morrison Formation with the Gypsum Valley salt diapir

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The goal of this project is to develop a better understanding of depositional and sedimentological variations in the fluvial Morrison Formation and its interaction with a rising diapir in Gypsum Valley, CO. This information could contribute to a better understanding of reservoir distribution and quality in fluvial settings adjacent to salt domes. Gypsum Valley exposes unfaulted contacts between a rising salt wall and the fluvial Morrison Formation that thins approaching the salt wall. Detailed field mapping, stratigraphy, photo panel and outcrop analysis will be conducted at several key locations that expose the influence of the salt diapir on deposition of the Morrison Formation.

Initial efforts have found that there are five key coarse sandstone marker beds that can be correlated for approximately 6,000 meters along the southwest margin of the Gypsum Valley salt diapir. Future steps will include correlating this stratigraphy at several locations around the diapir. Within this stratigraphic framework facies will be correlated in relation to deformation around the diapir. Additionally, the Morrison extends into the Gypsum Valley salt diapir forming synclines that range in magnitude from a few meters to a few kilometers and exhibits facies distinctly different from Morrison flanking the diapir.